

Claims:

1. A power tool, comprising:
  - a cutting tool;
  - a motor for driving the cutting tool;
  - means for detecting the location of objects moving within a predetermined area in the vicinity of the cutting tool and for detecting the speed of approach of the objects towards the cutting tool; and
  - a processor in communication with the detecting means, wherein the processor determines whether the object detected by the detecting means has a predetermined positional relationship relative to the cutting tool and determines whether the detected speed exceeds a predetermined value.
2. A power tool as in Claim 1, further comprising a table, wherein a portion of the cutting tool protrudes above the table, wherein the cutting tool cuts the work positioned on an upper face of the table.
3. A power tool as in Claim 1, wherein the processor stops the motor when the processor determines that the object detected by the detecting means has the predetermined positional relationship relative to the cutting tool and that the detected speed exceeds the predetermined value.
4. A power tool as in Claim 1, wherein the detecting means comprises a radar for transmitting radio waves towards the predetermined area and for receiving waves reflected therefrom.
5. A power tool as in Claim 4, wherein the radar is disposed in a position such that the cutting tool is sandwiched therebetween, and such that the radar faces the operator.
6. A power tool as in Claim 4, wherein the frequency of the radio waves transmitted from

the radar is 1 GHz or above.

7. A power tool as in Claim 6, wherein the frequency of the radio waves transmitted from the radar is within the range of 10 ~ 30 GHz.

8. A power tool as in Claim 4, wherein the radar comprises a radio wave transmitting member and a radio wave receiving member, at least one of the radio wave transmitting member and the radio wave receiving member including one or a plurality of microstrip antennas.

9. A power tool as in Claim 8, wherein the microstrip antennas comprises:  
a strip conductor;  
a ground conductor disposed in a position facing the strip conductor; and  
a dielectric layer disposed between the strip conductor and the ground conductor.

10. A power tool as in Claim 9, wherein the dielectric layer has a groove, and the strip conductor is disposed within the groove of the dielectric layer.

11. A power tool as in Claim 10, wherein the ground conductor has a groove, and the dielectric layer is disposed within the groove of the ground conductor.

12. A power tool as in Claim 11, further comprising a table, wherein a portion of the cutting tool protrudes above the table, wherein the cutting tool cuts the work positioned on an upper face of the table, wherein the microstrip antenna is disposed within a surface of the table.

13. A power tool, comprising:  
a cutting tool;  
a motor for driving the cutting tool;  
a radar for transmitting radio waves towards a predetermined area in the vicinity of

a contacting location, this being a location wherein a blade edge of the cutting tool and work make contact, and for receiving radio waves reflected therefrom; and

a processor in communication with the radar, wherein the processor determines based upon the reflected waves received by the radar whether an object other than work is in the predetermined area.

14. A power tool as in Claim 13, wherein the processor stops the motor when the processor determines that an object other than work is in the predetermined area.

15. A power tool as in Claim 14, further comprising a memory, wherein the memory stores the reflected radio waves created when the work is located within the predetermined area, wherein the processor determines whether an object other than work is in the predetermined area by using the reflected waves received by the radar and the reflected radio waves stored in the memory.

16. A power tool as in Claim 15, wherein the processor determines the presence of an object other than work in the predetermined area when the absolute value of the difference between the peak values of voltages of the reflected waves received by the radar and peak values of voltages of the reflected radio waves stored in the memory exceeds a predetermined threshold value.

17. A power tool as in Claim 16, wherein the work is wooden material and wherein the frequency of the radio waves transmitted from the radar is within the range of 1 ~ 30 GHz.

18. A power tool as in Claim 17, further comprising a table, wherein a portion of the cutting tool protrudes above the table, wherein the cutting tool cuts the work positioned on an upper face of the table.

19. A power tool as in Claim 18, wherein the radar is disposed beneath the table, wherein the table comprises a penetrable window, the penetrable window allowing the radio waves

transmitted from the radar to penetrate therethrough.